## VIVEKANANDA COLLEGE, TIRUVEDAKAM WEST

College with Potential for Excellence
Residential \& Autonomous - A Gurukula Institute of Life-Training
Re-accredited (3rd Cycle) with 'A' Grade (CGPA 3.59 out of 4.00 ) by NAAC [Affiliated to Madurai Kamaraj University]
B.Sc. Comp. Science Degree (Semester) Examinations, November 2022

Part - III: Ability Enhancement Course: First Semester: Paper - I
DISCRETE MATHEMATICS
Under CBCS and LOCF - Credit 5
Time: 3 Hours
Max. Marks: 75

## SECTION - A

## Answer ALL Questions

$(10 \times 1=10)$

1. Let $\mathrm{R}=\{(3,3),(6,6),(9,9),(12,12),(3,6),(6,3),(3,9),(9,3),(9,12)$, $(12,9)\}$ be a relation on the set $\mathrm{A}=\{3,6,9,12\}$. The relation is $\qquad$
a) reflexive and transitive
b) reflexive and symmetric
c) symmetric and transitive
d) equivalence relation
2. If $A=\{p, q, r, s\}, B=\{r, s, t, u\}$, then $A \backslash B$ is
a) $\{p, q\}$
b) $\{\mathrm{t}, \mathrm{u}\}$
c) $\{\mathrm{r}, \mathrm{s}\}$
d) $\{p, q, r, s\}$
3. If $A$ and $B$ are square matrices such that $A B=I$ and $B A=I$, then $B$ is
a) Unit matrix
b) Null matrix
c) Multiplicative inverse matrix of A
d) -A
4. If $\left(\begin{array}{ccc}5 & x & 1\end{array}\right)\left(\begin{array}{c}2 \\ -1 \\ 3\end{array}\right)=(20)$, then the value of $x$ is
a) 7
b) -7
c) $1 / 7$
d) 0
5. A product of the variables and their negations in a formula is called $\qquad$
a) elementary product
b) elementary sum
c) CNF
d) DNF
6. A formula consisting of disjunctions of min-terms is called $\qquad$
7. $\qquad$
b) CNF
c) PDNF
d) PCNF
$\qquad$ giving the rule for finding its value at an integer from its values at smaller integer.
a) Recursion
b) Recursive
c) Recurrence
d) Function
8. $\qquad$ is used in mathematical logic and computer science.
a) Transfinite numbers
b) Structural Induction
c) Transfinite recursion
d) Transfinite induction
9. A path of a graph is said to be $\qquad$ if it contains all the edges of the graph.
a) eulerian
b) Hamiltonian
c) Tournament
d) planar
10. Hamilton cycle is a cycle that contains every $\qquad$ of G.
a) path
b) cycle
c) vertex
d) edge

## SECTION - B

## Answer any FIVE Questions

$(5 \times 2=10)$
11. What is discrete mathematics?
12. Let $\mathrm{A}=\mathrm{B}=\mathrm{X}=\{1,2,3,4,5,6\}$. Define R as $<$ on X .
13. Define matrix.
14. Write down rectangular and square matrices.
15. Write down basic logic operators.
16. By using mathematical induction prove that the given equation is true for all positive integers. $2+4+6+\ldots .+2 n=n(n+1)$
17. Define simple graph.

## SECTION - C

## Answer ALL Questions

$$
(5 \times 5=25)
$$

18. a) If $\mathrm{A}=\{1,3,5\}, \mathrm{B}=\{3,5,6\}$ and $\mathrm{C}=\{1,3,7\}$
i) Verify that $A \cup(B \cap C)=(A \cup B) \cap(A \cup C)$
ii) Verify $A \cap(B \cup C)=(A \cap B) \cup(A \cap C)$

## [OR]

b) Let $A=\{a, b, d, e\}, B=\{b, c, e, f\}$ and $C=\{d, e, f, g\}$
i) Verify $A \cap(B \cup C)=(A \cap B) \cup(A \cap C)$
ii) Verify $A \cup(B \cap C)=(A \cup B) \cap(A \cup C)$
19. a) Find the values of $x, y, z$ and a which satisfy the matrix equation

$$
\left(\begin{array}{cc}
\mathrm{x}+3 & 2 \mathrm{y}+\mathrm{x} \\
\mathrm{z}-1 & 4 \mathrm{a}-6
\end{array}\right)=\left(\begin{array}{cc}
0 & -7 \\
3 & 2 \mathrm{a}
\end{array}\right)
$$

## [OR]

b) If $\mathrm{A}=\left(\begin{array}{ll}1 & 2 \\ -1 & 3\end{array}\right)$ and $B=\left(\begin{array}{ll}2 & 1 \\ 1 & 1\end{array}\right)$ find AB and BA
20. a) Let p: Jupiter is a planet and q: India is an island be any two simple statements. Give verbal sentence describing each of the following statements.
i) $\neg p$
ii) $p \vee \neg q$
iii) $\neg p \vee q$
iv) $p \rightarrow \neg q$
v) $p \leftrightarrow q$

## [OR]

b) Determine the truth value of each of the following statements i) If $6+2=5$, then the milk is white.
ii) China is in Europe or $\sqrt{ } 3$ is an integer
iii) It is not true that $5+5=9$ or Earth is a planet
iv) 11 is a prime number and all the sides of a rectangle are equal.
21. a) What is Recursion? Explain.
[OR]
b) Find the recursive formula for the sequence $3,6,12,24,48,96$.
22. a) If the distance $d(u, v)$ between two vertices $u$ and $v$ that can be connected by a path in a graph is defined to be the length of the shortest path connecting them, then prove that the distance function satisfies the triangle inequality: $\mathrm{d}(\mathrm{u}, \mathrm{v})+\mathrm{d}(\mathrm{v}, \mathrm{w}) \geq \mathrm{d}(\mathrm{u}, \mathrm{w})$.
[OR]
b) Consider the sequence 01110100 as being arranged in a circular pattern.

Notice that every one of the eight possible binary triples: $000,001,011$, .., 111 appear exactly once in the circular list. Can you construct a similar list of length 16 where all the four binary digit patterns appear exactly once each? Of length 32 where all five binary digit patterns appear exactly once?

## SECTION - D

## Answer any THREE Ouestions <br> $(3 \times 10=30)$

23. Using the principle of mathematical induction, prove that

$$
1^{2}+2^{2}+3^{2}+\ldots .+n^{2}=(1 / 6)\{n(n+1)(2 n+1\} \text { for all } n \in N .
$$

24. Using the Cayley Hamilton Theorem find $\mathrm{A}^{-1}$ if $\mathrm{A}=\left(\begin{array}{ll}1 & 4 \\ 3 & 2\end{array}\right)$
25. Construct a truth table for the formula $\neg P \wedge(P \rightarrow Q)$
26. Using the principle of mathematical induction, prove that
$1.3+3.5+5.7+\ldots \ldots+(2 n-1)(2 n+1)=(1 / 3)\left\{n\left(4 n^{2}+6 n-1\right)\right.$.
27. How do you measure the similarity or distance between two vertices in a graph?
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Part - III: Ability Enhancement Course: Third Semester: Paper - I
Under CBCS and LOCF - Credit 5
Time: $\mathbf{3}$ Hours

## SECTION - A

## Answer ALL Questions

$(10 \times 1=10)$

1. A feasible solution of LPP
a) Must satisfy all the constraints simultaneously
b) Need not satisfy all the constraints, only some of them
c) Must be a corner point of the feasible region
d) all of the above
2. In Degenerate solution value of objective function $\qquad$
a) increases infinitely
b) decreases infinitely
c) basic variables are nonzero
d) One or more basic variables are zero
3. Linear inequalities are graphically represented on Cartesian plane by a
a) negative full space
b) closed half space
c) open half space
d) positive full space
4. $\qquad$ are the linear equations or inequalities arising out of
practical limitations
a) constants
b) restrictions
c) constraints
d) Functions
5. To formulate a problem for solution by the simplex method, we must add artificial Variable to
a) only equality constraints
b) only > constraints
c) both A \& B
d) None of these
6. In simplex method, feasible basic solution must satisfy the
a) non-negativity constraint
b) negativity constraint
c) basic constraint
d) common constraint
7. Transportation problem is a special class of $\qquad$ -
a) LPP
b) Assignment problem.
c) none of the two.
d) both 1 and 2
8. The $\qquad$ method's solution for transportation problem is sometimes an optimal solution itself.
a) NWCR
b) VAM
c) LCM
d) Row Minima
9. The assignment problem is said to be unbalanced if $\qquad$ -
a) number of rows is greater than number of columns.
b) number of rows is lesser than number of columns.
c) number of rows is equal to number of columns.
d) both $a$ and $b$
10. The occurrence of degeneracy while solving a transportation problem means that
a) total supply equals total demand
b) the solution so obtained is not feasible
c) the few allocations become negative
d) none of the above

## SECTION - B

## Answer any FIVE Questions

## 11. Define Operation Research.

12. What are the requirements for employing LPP technique?
13. In Graphic method, when will you say that a LPP has infinite number of optimal solutions?
14. State purpose of Slack variable. Give an example.
15. When does degeneracy occur in transportation problem?
16. What is an assignment problem?
17. Distinguish between Assignment problem and Transportation problem.

## SECTION - C

## Answer ALL Questions

$(5 \times 5=25)$
18. a) Explain the scope of Operation Research

## [OR]

b) What are the limitations of Operation Research? Explain
19. a) A paper mill produces two grades of papers namely $X$ and $Y$. Because of raw material restrictions, it cannot produce more than 400 tonnes of grade $X$ and 300 tonnes of grade $Y$ in a week. There are 160 production hours in a week. It requires 0.2 and 0.4 hours to produce a ton of products X and Y respectively with corresponding profits of ₹ 200 and ₹ 500 per ton. Formulate the above as a LPP to maximize the profit.

## [OR]

b) Krishna Dairy manufactures three products Cheese, Paneer and Butter which gives a profit of ₹ 12 , ₹ 3 and ₹ 1 per kg. Manufacturing 1 kg of cheese requires 10 labour hours, Paneer requires 2 labor hours and Butter requires 1 hour of labor. Pasterization hour requirement is 7 hours, 3 hours and 2 hours respectively, whereas packaging hour requirement hour is 2 hours, 4 hours and 1 hour respectively for Cheese, Panner and Butter. Company has total 100 hours of labor, 77 hours for pasteurization and 80 hours of packaging. Formulate the above as a LPP to maximize the profit.
20. a) Find all basic solutions to the following LPP

$$
\begin{aligned}
& \operatorname{Max} Z=p+3 q+3 r \\
& \text { Subject to } \\
& p+2 q+3 r=4 \\
& 2 p+3 q+5 r=7 \\
& p, q, r \geq 0
\end{aligned}
$$

## [OR]

b) Express the following LPP in canonical form.
$\operatorname{Max} Z=2 x+3 y+z$
$4 x-3 y+z \leq 6$,
$x+5 y-7 z \geq-4$
and $x, z \geq 0$, $y$ is unrestricted
21. a) Find Initial Basic Feasible solution using Vogel's Approximation Method

|  |  |  | Supply |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 5 | 7 | 13 | 10 | 200 |
|  | 8 | 6 | 14 | 13 | 900 |
|  | 12 | 10 | 9 | 11 | 800 |
| Demand | 200 | 600 | 700 | 400 |  |
|  | [OR] |  |  |  |  |

b) Find Initial Basic Feasible solution using North West Corner rule

|  |  |  |  | Supply |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 5 | 8 | 6 | 6 | 3 | 800 |
|  | 4 | 7 | 7 | 6 | 5 | 800 |
|  | 8 | 4 | 6 | 6 | 4 | 900 |
| Demand | 400 | 400 | 500 | 400 | 800 |  |

22. a) Explain Hungarian method to solve assignment problem.
[OR]
b) Solve the following assignment problem

| 120 | 100 | 80 | 90 |
| :---: | :---: | :---: | :---: |
| 80 | 90 | 110 | 70 |
| 110 | 140 | 120 | 100 |
| 90 | 90 | 80 | 90 |

SECTION - D

## Answer any THREE Questions <br> $$
(3 \times 10=30)
$$

23. What are the phases of OR? Explain
24. Solve the LPP by Graphical method
$\operatorname{Max} Z=3 x+2 y$
subject to

$$
\begin{aligned}
& -2 x+y \leq 1 \\
& x \leq 2 \\
& x+y \leq 3 \\
& x, y \geq 0
\end{aligned}
$$

25. Solve by simplex method

Max $Z=20 p+6 q+8 r$
subject to

$$
8 p+2 q+3 r \leq 250
$$

$4 p+3 q \leq 150$
$2 p+r \leq 50$
$p, q, r \geq 0$
26. Solve the following Assignment Problem

| 16 | 13 | 17 | 19 |
| :---: | :---: | :---: | :---: |
| 14 | 12 | 13 | 16 |
| 14 | 11 | 12 | 17 |
| 5 | 5 | 8 | 8 |
| 5 | 3 | 8 | 8 |

27. Solve the following Transportation Problem

|  |  |  | Supply |  |
| :---: | :---: | :---: | :---: | :---: |
|  | 50 | 30 | 220 | 1 |
| 90 | 45 | 170 | 3 |  |
|  | Demand | 4 | 2 | 2 |


25. Solve by simplex method

Max $Z=20 p+6 q+8 r$
subject to

$$
\begin{aligned}
& 8 p+2 q+3 r \leq 250 \\
& 4 p+3 q \leq 150 \\
& 2 p+r \leq 50 \\
& p, q, r \geq 0
\end{aligned}
$$

26. Solve the following Assignment Problem

| 16 | 13 | 17 | 19 |
| :---: | :---: | :---: | :---: |
| 14 | 12 | 13 | 16 |
| 14 | 11 | 12 | 17 |
| 5 | 5 | 8 | 8 |
| 5 | 3 | 8 | 8 |

27. Solve the following Transportation Problem

|  |  |  | Supply |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |
|  |  | 30 | 220 | 1 |
| 90 | 45 | 170 | 3 |  |
|  | 250 | 200 | 50 | 4 |
| Demand | 4 | 2 | 2 |  |



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B.Sc. Comp. Science Degree (Semester) Examinations, November 2022

> Part - III: Core Course: First Semester: Paper - I

PROGRAMMING IN C
Under CBCS and LOCF - Credit 4
Time: $\mathbf{3}$ Hours

## SECTION - A

## Answer ALL Questions

$(10 \times 1=10)$

1. C Language developed at?
a) Bell Laboratories of USA in 1972
b) AT \& T's Bell Laboratories of USA in 1970
c) Sun Microsystems in 1973
d) Cambridge University in 1972
2. Identify the wrong statement.
a) putchar(65);
b) putchar('x');
c) putchar("x");
d) putchar();
3. Which header file is essential for using stremp() function?
a) string.h
b) strings.h
c) text.h
d) stremp.h
4. Which function is used to display the information?
a) printf ()
b) gets()
c) $\operatorname{scanf}()$
d) $\operatorname{get}()$
5. Recursion is a process in which a function calls $\qquad$
a) itself
b) another function
c) main () function
d) sub program
6. The operator \& is used for
a) Bitwise AND
b) Bitwise OR
c) Logical AND
d) Logical OR
7. Identify the most appropriate sentence to describe the unions $\qquad$

## SECTION - C

## Answer ALL Questions

$(5 \times 5=25)$
18. a) Define variables. State various rules for framing a variable.
[OR]
b) Write short notes on different data types in C Programming.
19. a) Write a C program to find sum of all elements in an array,
[OR]
b) Explain different basic string operations with example.
20. a) Define function and explain advantage of using function in C .
[OR]
b) Explore function without argument and with return value with simple example in C.
21. a) Write short note on structure in C programming.

## [OR]

b) Discuss array of structures in C programming with example.
22. a) Explain declaration of pointers and its advantages in C .

## [OR]

b) Write a C program to read name and marks of $n$ number of students from user and store them in a file.

## SECTION - D

## Answer any THREE Questions

$(3 \times 10=30)$
23. Discuss different looping statements with example.
24. Discuss on benefits of arrays. Explain one dimensional array and twodimensional array with examples.
25. Write a C program to calculate and factorial of a given number using a recursive function.
26. Define union. How data elements are stored under unions, explain with example?
27. Describe Input and Output Operations of a file in C.

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Part - III: Core Course: First Semester: Paper - II
DIGITAL PRINCIPLES AND COMPUTER ORGANIZATION
Under CBCS and LOCF - Credit 4
Time: 3 Hours

## SECTION - A

## Answer ALL Questions <br> $(10 \times 1=10)$

1. The NOR gate output will be high if the two inputs are
a) 0,0
b) 0,1
c) 1,0
d) 1,1
2. Which of the examples below expresses the commutative law of multiplication?
a) $\mathrm{A}+\mathrm{B}=\mathrm{B}+\mathrm{A}$
b) $A \cdot B=B+A$
c) $\mathrm{A} \cdot(\mathrm{B} \cdot \mathrm{C})=(\mathrm{A} \cdot \mathrm{B}) \cdot \mathrm{C}$
d) $\mathrm{A} \cdot \mathrm{B}=\mathrm{B} \cdot \mathrm{A}$
3. Which is the major functioning responsibility of the multiplexing combinational circuit?
a) Decoding the binary information
b) Generation of all minterms in an output function with OR-gate
c) Generation of selected path between multiple sources and a single destination
d) Encoding of binary information
4. How many AND gates are required for a 1-to-8 multiplexer?
a) 2
b) 6
c) 8
d) 5
5. Which of the following flip-flops is free from race around problem?
a) T flip-flop
b) S-R flip-flop
c) J-K Flip-flop
d) D Flip-flop
6. Based on how binary information is entered or shifted out, shift registers are classified into $\qquad$ categories.
a) 2
b) 3
c) 4
d) 5
7. During the execution of a program which gets initialized first?
a) MDR
b) IR
c) PC
d) MAR
8. A processor performing fetch or decoding of different instruction during the execution of another instruction is called $\qquad$
a) Super-scaling
b) Pipe-lining
c) Parallel Computation
d) None of the mentioned
9. The type of control signal is generated based on $\qquad$
a) contents of the step counter
b) Contents of IR
c) Contents of condition flags
d) All of the mentioned
10. The DMA transfers are performed by a control circuit called as
a) Device interface
b) DMA controller
c) Data controller
d) Overlooker

## SECTION - B

## Answer any FIVE Questions

$(5 \times 2=10)$
11. Convert (1056) ${ }_{16}$ to an octal number.
12. Draw circuit Diagram for NAND gate.
13. What is an Encoder?
14. Comment on Don't Care Condition
15. What is Flip Flop?
16. Define Register
17. What do you mean by Hardwired control logic unit?

## SECTION - C

## Answer ALL Questions

$$
(5 \times 5=25)
$$

18. a) Explain Excess-3 and Gray code with an example.
[OR]
b) Summarize various types Number System with an example.
19. a) Illustrate the following basic laws of Boolean Algebra
i) Commutative law
ii) Associative law
iii) Distributive law

## [OR]

b) Demonstrate $8 \times 1$ Multiplexer with neat diagram.
20. a) Explain JK Flip Flop with its circuit diagram.
[OR]
b) Explain RS Flip Flop with its circuit diagram.
21. a) Compare Stack and Queue.

## [OR]

b) Discuss on Bus Structures of a system.
22. a) Summarize an Addressing modes of a digital system.
[OR]
b) Explain major processing units in a computer system.

## SECTION - D

## Answer any THREE Questions

23. Explain Basic Logic Gates with its diagram \& Truth Tables.
24. Describe Decoders and Basic Binary decoders.
25. Explain following shift registers explain
i) SISO
ii) SIPO
26. Describe Functional Units of a digital system.
27. Discuss on DMA controller.

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> Part - III: Core Course: Third Semester: Paper - I COMPUTER NETWORKS
Under CBCS and LOCF - Credit 4
Time: $\mathbf{3}$ Hours
Max. Marks: 75

## SECTION - A

## Answer ALL Questions

1. $\qquad$ is used as a medium of communication under water.
a) Wave
b) Light
c) Sound
d) Music
2. $\qquad$ layer decides which physical path the data should take.
a) Network
b) Transport
c) Physical
d) Data Link
3. The frames which are intimated for receiving are called $\qquad$
a) sending window
b) receiving window
c) sender
d) receiver
4. A software that allows a personal computer to pretend it as a terminal is
a) auto dialling
b) bulletin board
c) modem
d) terminal emulation
5. Which of the following divides the high-speed signal into frequency bands?
a) T switch
b) Time division multiplexer
c) Frequency Division Multiplexer
d) Code Division Multiplexer
6. A significant challenge of the Underwater Sensor Network is
a) Rain
b) Lightning
c) Thunder
d) Limited Battery Power
7. All of the parts in a computer talk to each other by sending $\qquad$

## SECTION - C

a) digital signals
b) smoothly varying signal waves
c) analogue signals
d) light
8. The most efficient medium for ATM is $\qquad$
a) twisted pair
b) optical fibre
c) coaxial cable
d) the atmosphere
9. A medium access control technique for multiple access transmission media is $\qquad$
a) attenuation
b) aloha
c) amplitude
d) carrier
10. Which of the following TCP/IP protocol is used for remote terminal connection service?
a) TELNET
b) RARP
c) FTP
d) UDP

## SECTION - B

## Answer any FIVE Questions

$(5 \times 2=10)$
11. What is Computer Networking?
12. List out any four Network Topology.
13. Define Multiplexing.
14. Comment on concept of Message Switching.
15. List out Design issues of Data Link Layer.
16. What do you mean by Routing?
17. Why do we use Digital Signature?

## Answer ALL Questions

18. a) Explain different types of Network Hardware.
[OR]
b) Summarize the usage of Computer Networks.
19. a) Explain PSTN
[OR]
b) Compare Circuit Switching and Packet Switching.
20. a) Illustrate the Cyclic Redundancy Check error detection technique.
[OR]
b) Explain an elementary data link protocol for Noise Channel.
21. a) Describe the design issues of Network layer.
[OR]
b) Classification of IP Address.
22. a) Summarize the Domain Name System.
[OR]
b) Classify the different types of Cryptography algorithm.

## SECTION - D

## Answer any THREE Questions

$(3 \times 10=30)$
23. Explain OSI reference model in Data Communication and Networks.
24. Identify Guided Transmission Media for Data Communication.
25. Illustrate Sliding Window protocol for Data Communication.
26. Interpret the Transmission Control Protocol with neat diagram.
27. Describe Electronic Mail architecture and services.
STs

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# Part - III: Core Course: Third Semester: Paper - II COMPUTER GRAPHICS 

Under CBCS and LOCF - Credit 4
Time: $\mathbf{3}$ Hours

## SECTION - A

## Answer ALL Questions <br> $(10 \times 1=10)$

1. The property of emitting light for a period of time after the CRT beam stops emission is called $\qquad$ _
a) Phosphorescence
b) Resolution
c) Persistence
d) Aspect Ratio
2. The encoding of the raster image as a set of rectangular areas is called $\qquad$
a) Run length
b) cell encoding
c) digitizing
d) spooling
3. $\qquad$ is defined as a set of points that are all at a given distance $r$ from a center position ( $\mathrm{x}, \mathrm{y}$ )
a) Rectangle
b) Curve
c) Circle
d) Spline
4. To apply the midpoint method, we define
a)? $\operatorname{circle}(x, y)=x^{2}+y^{2}-? r ?^{2}$
b) $? \operatorname{circle}(\mathrm{x}, \mathrm{y})=\mathrm{x}+\mathrm{y}^{2}-? \mathrm{r} ?^{2}$
c) $? \operatorname{circle}(\mathrm{x}, \mathrm{y})=\mathrm{x}^{2}-\mathrm{y}^{2}-? \mathrm{r} ?^{2}$
d) $? \operatorname{circle}(x, y)=x^{2}+y^{2}-? 2 ?^{2}$
5. Polygons are translated by adding $\qquad$ to the coordinate position of each vertex and the current attribute setting
a) straight line path
b) translation vector
c) differences
d) all the above
6. $\qquad$ is a transformation that produces a mirror image of an object
a) Reflection
b) Rotation
c) Scaling
d) Shear
7. Coordinates of the window are known as $\qquad$ .
a) screen coordinates
b) world coordinates
c) device coordinates
d) Cartesian coordinates
8. $\qquad$ is applied to input coordinates to produce a variety of alignments
a) Positioning methods
b) constraints
c) grids
d) gravity field
9. In which projection, the plane normal to the projection has equal angles with three axes $\qquad$ -
a) Wireframe
b) constructive solid geometry
c) isometric
d) perspective
10. $\qquad$ is the device code for a Trackball
a) 1
b) 10
c) 6
d) 5

## SECTION - B

## Answer any FIVE Questions

$(5 \times 2=10)$
11. What do you mean by resoultion?
12. Compare pixmap and bitmap.
13. Comment on uniform scaling.
14. What do you mean by Window-Viewport transformation?
15. What is rubber band technique?
16. What do you mean by dragging?
17. Distinguish between parallel projection and perspective projection.

## SECTION - C

## Answer ALL Questions

18. a) Describe the role of frame buffer in displaying an image.
[OR]
b) Write a note on Hard copy devices.
19. a) Explain DDA line Drawing Algorithm.
[OR]
b) Explain various area fill attributes.
20. a) Prove that uniform scaling and rotation makes a commutative pair of operations.

## [OR]

b) Discuss on Window-Viewport transformation.
21. a) Classify the interactive input devices based on input modes.
[OR]
b) Explain the concept of graphics tablets.
22. a) Discuss on composite transformations.

## [OR]

b) Write a note on 3D rotation.

## SECTION - D

## Answer any THREE Questions <br> $(3 \times 10=30)$

23. Explain bresenham's line drawing algorithm. And find the pixels between the points $(0,0)$ to $(6,7)$ to draw a line.
24. Derive the transformation matrix for Reflection based on the line $y=m x+c$.
25. Explain Sutherland Hodgeman Polygon clipping algorithm.
26. Describe various Interactive Picture Construction techniques.
27. How do you achieve realism in three-dimensional graphics? Explain

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B.Sc. Comp. Science Degree (Semester) Examinations, November 2022

> Part - III: Core Course: Fifth Semester: Paper - I PYTHON PROGRAMMING
> Under CBCS and LOCF - Credit 4

Time: $\mathbf{3}$ Hours

## $\underline{\text { SECTION - A }}$

## Answer ALL Questions <br> $(10 \times 1=10)$

1. How many keywords present in the python programming language?
a) 32
b) 61
c) 33
d) 27
2. What do we use to define a block of code in Python language?
a) Key
b) Brackets
c) Indentation
d) None of these
3. Which of the following functions is a built-in function in python language?
a) $\operatorname{val}()$
b) $\operatorname{print}()$
c) $\operatorname{print}()$
d) None of these
4. How we can convert the NumPy array to the list in python?
a) list(array)
b) list.array
c) array.list
d) None of the above
5. Which of the following counts the number of elements in Numpy array?
a) $\operatorname{count}()$
b) return()
c) shape()
d) $\operatorname{size}()$
6. Which of the following thing can be data in Pandas?
a) a python dict
b) a ndarray
c) a scalar value
d) All of the above
7. A model of language consists of the categories which does not include
a) System Unit
b) structural units
c) data units
d) empirical units
8. Which function is used in the below program

$$
\begin{aligned}
& \text { txt }=\text { "Hello, welcome to my world." } \\
& x=\operatorname{txt} . \text { find("welcome") } \\
& \text { print(x) }
\end{aligned}
$$

a) $\operatorname{len}()$
b) index ()
c) find()
d) join ()
9. Which method is used to return the string in lower case.
a) lower()
b) strip()
c) upper()
d) replace ()
10. Which of the following is the right method through which we can create an empty tuple in our Python program?
a) Empty_Tuple = Null
b) Empty_Tuple =
c) Empty_Tuple = ()
d) Empty_Tuple $=0$

## SECTION - B

## Answer any FIVE Questions

$(5 \times 2=10)$
11. List the types of errors that occur in a program.
12. What is a statement?
13. State the term 'flow of execution'.
14. Comment on 'traversal'.
15. Define split function with example.
16. Define histogram.
17. Write the steps to open a text file.

## SECTION - C

Answer ALL Questions
$(5 \times 5=25)$
18. a) Elucidate Python programming as a high-level language.
[OR]
b) Define variable. Discuss on variable representation in Python.
19. a) Demonstrate the execution of a function using function call.

## [OR]

b) Summarize recursion with example.
20. a) Distinguish between encapsulation and generalization.
[OR]
b) Explain for loop with example.
21. a) Compare and contrast aliasing and cloning in lists.
[OR]
b) What are tuples? Explain tuple assignment with example.
22. a) Illustrate hints with example.
[OR]
b) Demonstrate the procedure for creating a text file with an example.

## SECTION - D

## Answer any THREE Questions

$$
(3 \times 10=30)
$$

23. Explain: i) Arithmetic operators in Python.
ii) Data types in Python.
24. Explain Math functions and Boolean functions with example.
25. What is compound datatype? Elucidate any three string operations with example.
26. Explain lists. Classify the various operators that can be performed on lists.
27. Discuss briefly on dictionaries.

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B.Sc. Comp. Science Degree (Semester) Examinations, November 2022

Part - III: Core Course: Fifth Semester: Paper - II
JAVA PROGRAMMING
Under CBCS and LOCF - Credit 4

## Time: 3 Hours

## SECTION - A

## Answer ALL Questions <br> $(10 \times 1=10)$

1. Wrapper class is a wrapper around a $\qquad$ data type
a) normal
b) central
c) primitive
d) concrete
2. Which of the tool is used to compile java code?
a) java
b) javac
c) javacompute
d) javaend
3. Methods having same name and differ type signature are called
$\qquad$ methods
a) overriding
b) over read
c) super
d) overloading
4. The data or variables, defined within a class are called $\qquad$ variables.
a) object
b) class
c) instance
d) schema
5. Which of these keywords is used by a class to use an interface defined previously?
a) import
b) imports
c) implements
d) implement
6. Inheritance allows $\qquad$ of sub classes
a) creation
b) updation
c) view
d) display
7. The methods wait() and notify() are defined in?
a) java. lang. String
b) java.lang.Object
c) java.lang.Runnable
d) java.lang.Thread
8. Which of the following is NOT an example of a data type?
a) int
b) public
c) Button
d) void
9. An $\qquad$ is a special kind of Java program that is designed to be transmitted over the internet.
a) viewlet
b) applet
c) servlet
d) object
10. Which of these Exceptions is thrown by remote method?
a) Remote Exception
b) Input Output Exception
c) Remote Access Exception
d) Remote Input Output Exception

## SECTION - B

## Answer any FIVE Questions

$(5 \times 2=10)$
11. Define Inheritance.
12. What is Encapsulation?
13. What is the basic form of a Class definition?
14. Find the use of Subclass Constructor.
15. What is a Package?
16. Define Multithreaded program.
17. Find out the difference between Local applet and Remote applet.

## SECTION - C

## Answer ALL Questions

18. a) Explain Application of OOP.

## [OR]

b) Illustrate different types of Constants in Java with Examples.
19. a) Explain most Commonly used String methods in Java.
[OR]
b) Outline Overriding methods with a suitable example.
20. a) Classify Java System Packages and their Classes.
[OR]
b) Explain the procedure for Creating and Accessing a Package.
21. a) Explain complete Life cycle of a Thread.

## [OR]

b) Summarize common Java Exceptions.
22. a) Classify various sections of Web Page.

## [OR]

b) How applets differ from Applications? Explain

## SECTION - D

## Answer any THREE Questions

$(3 \times 10=30)$
23. Identify the Different types of Operators with examples.
24. Develop a java program for the Application of Classes and Objects.
25. Construct a java program for Implementing Interfaces.
26. Develop a Java program for use of Priority Thread.
27. Summarize the steps involved in Applet Life cycle.

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B.Sc. Comp. Science Degree (Semester) Examinations, November 2022

Part - III: Core Course: Fifth Semester: Paper - III
SOFTWARE ENGINEERING
Under CBCS and LOCF - Credit 4
Time: $\mathbf{3}$ Hours

## SECTION - A

## Answer ALL Questions <br> $(10 \times 1=10)$

1. What is the first step in the software development lifecycle?
a) System Design
b) Coding
c) System Testing
d) Preliminary Investigation and Analysis
2. Which of these is not defined in the Software Requirement Specification?
a) Functional requirements
b) Non-functional requirements
c) Goals of Implementation
d) Algorithms
3. Which of the following is a non-functional requirement?
a) What does the system do?
b) When does the system do it?
c) Where does the system do it?
d) How well does the system do it?
4. Consider a system where a heat sensor detects an intrusion and alerts the security company. What kind of a requirement the system is providing?
a) Functional
b) Non-Functional
c) Known Requirement
d) None of the mentioned
5. $\qquad$ represent the architecture as an organized collection of program components.
a) framework models
b) structural model
c) dynamic model
d) process model
6. $\qquad$ design is equivalent to the floor plan of a house

## SECTION - B

a) Architectural design
b) Component-level design
c) Data design
d) Interface design
7. In which environment is the Alpha testing performed?
a) User's end
b) Developer's end
c) User's and developer's end
d) None of these
8. $\qquad$ defines the term failure?
a) A human action that produces an incorrect result
b) deviation from a specified behavior
c) Found in the software; the result of an error
d) It is procedure in a computer database.
9. Which software project sizing approach develop estimates of the information domain characteristics?
a) Function point sizing
b) Change sizing
c) Standard component sizing
d) Fuzzy logic sizing
10. A process that involves prioritizing risks for further action or analysis by assessing the impact and the probability of occurrence is called $\qquad$
a) Qualitative Risk Analysis
b) Risk Brainstorming
c) Quantitative Risk Analysis
d) Risk Retrospective

## Answer any FIVE Questions

11. Define task.
12. What is feasibility study?
13. What is process dimension?
14. What is archetype?
15. Define graph matrix.
16. Comment on "product specific risks".
17. Define risk identification.

## SECTION - C

## Answer ALL Questions

18. a) Write short notes on waterfall model.

## [OR]

b) Summarize the formal methods model.
19. a) Interpret the structure of Software Requirements Document.

## [OR]

b) Classify the check types carried out during requirements validation process.
20. a) Outline the quality guidelines used during the software design process.

## [OR]

b) Compare and contrast functional and non-functional requirements.
21. a) Elaborate on black box testing.
[OR]
b) Explain flow graph notation with illustrations.
22. a) Exemplify FP-based estimation with example.

## [OR]

b) Explain risk identification during project development.

## SECTION - D

## Answer any THREE Questions $\quad(3 \times 10=30)$

23. Discuss any two common evolutionary process models.
24. Explain the requirements elicitation and analysis process. Discuss any two activities in detail.
25. Categorize the architectural styles used in software engineering.
26. Explain Unit Testing and Integration testing.
27. Describe the COCOMO II estimation model.

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B.Sc. Comp. Science Degree (Semester) Examinations, November 2022

> Part - III: Elective Course: Fifth Semester: Paper - I

CLOUD COMPUTING
Under CBCS and LOCF - Credit 4
Time: $\mathbf{3}$ Hours
Max. Marks: 75

## SECTION - A

## Answer ALL Questions

$(10 \times 1=10)$

1. Which of the following is the working models for cloud computing?
a) Deployment Models
b) Configuring Model
c) Collaborative Model
d) All of the above
2. What is Cloud Foundry?
a) A factory that produces cloud components
b) An industry wide PaaS initiative
C.Mware-led open-source PaaS
d) None of the above
3. The main tool for migrations in VMware's arsenal is VMotion state.
a) True
b) False
c) Can't say
d) May be
4. The overhead associated with $\qquad$ staff is a major cost.
a) Data Center
b) IT
c) non-IT
d) All of the mentioned
5. What is the most important area of concern in cloud computing?
a) Security
b) Scalability
c) Storage
d) None of the mentioned
6. A $\qquad$ cloud requires virtualized storage to support the staging and storage of data.
a) soft
b) compute
c) local
d) none of the mentioned
7. Cloud providers provide cloud services to the cloud users.
a) True
b) False
c) May be
d) Can't say
8. Communication between services is done widely using $\qquad$ protocol.
a) REST
b) SOAP
c) RESTful
d) None of the mentioned
9. The SDP defines the following with respect to the service $\qquad$
A) Service-level requirements
b) Service design and topology
c) Service and operational management requirements
d) all of the above
10. Which of the following subject area deals with pay-as-you-go usage model?
a) accounting management
b) compliance
c) data privacy
d) all of the mentioned

## SECTION - B

## Answer any FIVE Questions

$$
(5 \times 2=10)
$$

11. Comment on Cloud Computing
12. List types of virtualizations.
13. What are the different types of cloud?
14. Define on demand pricing. What do you mean by on demand pricing?
15. Write any 3 disadvantages of cloud service development.
16. List out the challenges of cloud migration.
17. Mention few services offered by AWS.

## SECTION - C

## Answer ALL Questions

18. a) What are the various models of cloud computing? Explain it.

## [OR]

b) List \& explain the advantages of cloud computing.
19. a) Draw cloud architecture and explain it.
[OR]
b) List different types of virtualizations with example.
20. a) Mention various services of cloud implementation.

## [OR]

b) Write short note on cloud pricing model.
21. a) Write a note on IBM smart cloud.
[OR]
b) Describe about salesforce.com
22. a) Discuss organization security policy.
[OR]
b) Write a note on Key management and encryption.

## SECTION - D

## Answer any THREE Questions

$(3 \times 10=30)$
23. Describe various cloud types.
24. Explain about seven-step model of cloud migration.

25 . What are the layers in cloud implementation and standards?
26. Describe Amazon web services.
27. Summarize Cloud security and migration strategies.

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[Affiliated to Madurai Kamaraj University]
B.A. \& B.Sc. Degree (Semester) Examinations, November 2022 Part - IV: Generic Elective Course: First Semester: Paper - I INTRODUCTION TO INFORMATION TECHNOLOGY

Under CBCS and LOCF - Credit 2
Time: 2 Hours

## SECTION - A

## Answer ALL Questions

$(10 \times 1=10)$

1. Information is
a) a collection of data
b) a processed data
c) a text data
d) an audio/video data
2. The first calculating device is called
a) Multiplying machine
b) Analytical engine
c) Adding machine
d) ABACUS
3. Website is a collection of
a) audio files
b) video file
c) image file
d) html file
4. 82) WAN stands for
a) wire and network
b) wire accessible network
c) widely accessible network
d) wide area network
1. DOM is an acronym for $\qquad$
a) document object model
b) document object metrics
c) digital object model
d) digital object metrics
2. C, C++, Java, Python all are the examples of
a) high-level language
b) low-level language
c) assembly language
d) all are true

7．A source program is written in
a）high level language
b）English language
c）machine language
d）symbolic language

8．Computer performs calculations
a）in accurately
b）accurately
c） 1 million decimals
d） 2 decimals

9．The actual machinery in a computer is called the
a）machinery）
b）hardware
c）software
d）instruments

10．First generation computers use
a）cathode ray tube
b）typewriter
c）printers
d）paper tapes

## SECTION－B

## Answer any FIVE Questions

（ $5 \times 2=10$ ）
11．Expand ALU and USB
12．Expand CD and DVD

13．List out the any four web browsers？

14．What is Software？

15．What is Multimedia？

16．Define internet．
17．Type of memory in computer．

## SECTION－C

## Answer ALL Questions

$(3 \times 9=27)$
18．a）Briefly discuss about the input device and output device
［OR］
b）Explain the followings：
i）Web page
ii）website
iii）browser

19．a）Explain about the computer with types．
［OR］
b）Briefly explain about computer network with types．
20．a）Explain about the memory with types．
［OR］
b）Discuss briefly about storage media in a computer system？

## SECTION－D

## Answer any TWO Questions

$(2 \times 14=28)$
21．Explain the functional unit in a computer．
22．Discuss briefly about the keyboard descriptions in a computer system？
23．Explain the usage of IT in Different fields．
24．Explain the different types of operating system？

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B.Sc. Comp.Science Degree (Semester) Examinations, November 2022 Part - IV: Skill Based Course: Fifth Semester: Paper - I

COMPETITIVE EXAMINATION FOR IT
Under CBCS and LOCF - Credit 2
Time: 2 Hours
Max. Marks: 75

## SECTION - A

## Answer ALL Questions

( $75 \times 1=75$ )

1. Tickets numbered 1 to 20 are mixed up and then a ticket is drawn at random. What is the probability that the ticket drawn has a number which is a multiple of 3 or 5 ?
a) $1 / 2$
b) $2 / 5$
c) $8 / 15$
d) $9 / 20$
2. A bag contains 2 red, 3 green and 2 blue balls. Two balls are drawn at random. What is the probability that none of the balls drawn is blue?
a) $10 / 21$
b) $2 / 7$
c) $7 / 2$
d) $21 / 10$
3. In a box, there are 8 red, 7 blue and 6 green balls. One ball is picked up randomly. What is the probability that it is neither red or green?
a) $1 / 3$
b) $3 / 1$
c) $5 / 8$
d) $4 / 3$
4. What is the probability of getting a sum 9 from two throws of a dice?
a) $1 / 6$
b) $1 / 8$
c) $1 / 9$
d) $1 / 12$
5. Three unbiased coins are tossed. What is the probability of getting at most two heads?
a) $3 / 4$
b) $1 / 4$
c) $3 / 8$
d) $7 / 8$
6. Four dice are thrown simultaneously. Find the probability that all of them show the same face:
a) $1 / 216$
b) $1 / 36$
c) $4 / 216$
d) $3 / 216$
7. Find odd man out $3,5,11,14,17,21$
a) 21
b) 11
c) 14
d) 21
8. Find odd man out $8,27,64,100,125,216,343$
a) 27
b) 100
c) 125
d) 343
9. Find odd man out $10,25,45,54,60,75,80$
a) 45
b) 10
c) 54
d) 80
10. Find odd man out $396,462,572,427,671,264$
a) 396
b) 427
c) 572
d) 264
11. A person crosses a 600 m long street in 5 minutes. What is his speed in km per hour?
a) 3.6
b) 7.2
c) 8.4
d) 10
12. An aeroplane covers a certain distance at a speed of 240 kmph in 5 hours.

To cover the same distance in 1 hours, it must travel at a speed of
a) 300 kmph
b) 300 kmph
c) 300 kmph
d) 300 kmph
13. Look at this series: $7,10,8,11,9,12, \ldots$ What number should come next?
a) 7
b) 10
c) 12
d) 13
14. Look at this series: $53,53,40,40,27,27, \ldots$ What number should come next?
a) 12
b) 14
c) 27
d) 53
15. Which of the following diagrams indicates the best relation between Author, Lawyer and Singer?
a)

b)

c)
d)

16. Which of the following diagrams indicates the best relation between Travellers, Train and Bus?
a)
$\square 0$
b)

c) Q2
d)
17. Which of the following diagrams indicates the best relation between Profit, Dividend and Bonus
a)
b)
b)

c)
8
d)
)
18. Which of the following diagrams indicates the best relation between Women, Mothers and Engineers?
a)
b)
c)

d)

19. Which of the following diagrams indicates the best relation between Factory, Product and Machinery
a)
b)

c)

d)
20. Add, Subtract, Multiple and logic operations are performed by
a) Memory
b) Control unit
c) ALU
d) none of the above
21. In digital computer, data is represented in
a) Octal form
b) Hexadecimal form
c) Binary form
d) Numerical form
22. Which of the following memories must be refreshed many times per second?
a) A ROM
b) A RAM
c) Dynamic RAM d) EPROM
23. What is a set of instructions that directs the computer to process information?
a) Software
b) Compiler
c) Both $[\mathrm{A}]$ and $[\mathrm{B}]$
d) None of the above
24. The intersection areas of rows and columns in spreadsheet are called
a) Box
b) Cells
c) Line
d) None of the above
25. CD-ROM is a $\qquad$
a) A Memory register
b) Semiconductor memory
c) Secondary Memory
d) none of the above
26. Arrange the words given below in a meaningful sequence.
I. Income
II. Status
III. Education
IV. Well-being
V. Job
a) $3,1,5,2,4$
b) $1,3,2,5,4$
c) $1,2,5,3,4$
d) $3,5,1,2,4$
27. Arrange the words given below in a meaningful sequence
I. Leaves
II. Branch
III. Flower
IV. Tree
V. Fruit
a) $4,3,1,2,5$
b) $4,2,5,1,3$
c) $4,3,2,1,5$
d) $4,2,1,3,5$
28. $\mathrm{HEART}=@ 8531 ;$ FEAST $=\# 8541 ;$ FARTHEST=?
a) \#541@831
b) \#831@541
c) @ $@ 41 \# 831$
d) \#531@841
$29.5 \%$ of $5 \%$ of $₹ 100$ is
a) ₹ 25
b) ₹ 0.50
c) ₹ 10
d) ₹ 0.25
$30.77 \%$ of $64=$ ?
a) 47.28
b) 49.28
c) 48.29
d) 49.27
31. If today is Friday, what day of the will it be 100 days from today?
a) Monday
b) Sunday
c) Tuesday
d) Wednesday
32. $(489+375)^{2}-(489-375)^{2} /(489 * 375)=$ ?
a) 4
b) 5
c) 40
d) 52
33. $\left(\frac{(963+476)^{2}+(963-476)^{2}}{(963 \times 476)}\right)=$ ?
a) 4
b) 5
c) 6
d) 2
34. In a certain code Languages 461 means 'where are you', 169 means 'you are good' and 8652 means 'flowers are not bad'. How will 'where not are good flowers' be written in that code Language?
a) 68954
b) 46598
c) 45698
d) Data inadequate
35. 7:12 is equivalent to
a) $28: 40$
b) $42: 71$
c) $42: 72$
d) $72: 42$
36. If $\mathrm{C}=3$ and POLISH $=79$, then POINTER $=$ ?
a) 98
b) 97
c) 96
d) 95
37. If 'blue' means 'green', 'green' means 'white', 'white' means 'yellow', 'yellow' means 'black', 'black' means 'red' and 'red' means 'brown', that what is color of 'Blood'?
a) yellow
b) Green
c) Brown
d) Black
38. The L.C.M of number is $2,4,32,8$ find the value
a) 32
b) 65
c) 60
d) 63
39. The L.C.M of two number is $12,30=$ ?
a) 58
b) 60
c) 62
d) 64
40. The L.C.M of two number is $2,13=$ ?
a) 15
b) 25
c) 26
d) 28
41. Ram is the brother of Arun. Sana is the sister of Tina. Arun is the son of Sana. How is Ram related to Sana?
a) Brother
b) Uncle
c) Son
d) Father
42. Pointing towards a day, Veena said, "He is the son of the only son of my grandfather." How is that boy related to Veena?
a) Uncle
b) Brother
c) Cousin
d) None
43. A man walks 5 km east, turns left $\&$ walks another 5 km . Again, he takes a left turn \& walks 5 km . Which direction on is he facing now?
a) WEST
b) EAST
c) SOUTH
d) NORTH
44. $2 \sqrt{ } 9025=$ ?
a) 85
b) 75
c) 95
d) 90
45. $\sqrt{ } 125=$ ?
a) 10
b) 5
c) 25
d) 15
46. Doctor:: Patient::Politician::?
a) Voter
b) Chair
c) Money
d) Public
47. Find the missing LETTER for the given box?

| B | C | E | G | K | M |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Y | X | V | T | P | $?$ |

a) L
b) S
c) N
d) O
48. The hexadecimal number C 3 convert to binary number is
a) 1111
b) 110011
c) 111100
d) 11000011
49. Find odd man out
a) April
b) June
c) September
d) May
50. Find odd man out:
a) oracle
b) basic
c) pascal
d) cobol
51. Which of the following computer language is written in binary codes only?
a) pascal
b) machine language
c) C
d) $\mathrm{C} \#$
52. Which symbol will be on the face opposite to the face with symbol *?

a) @
b) $\$$
c) 8
d) +
53. Two positions of dice are shown below. How many points will appear on the opposite to the face containing 5 points?

a) 3
b) 1
c) 2
d) 4
54. He always $\qquad$ to prove that the earth revolves round the sun.
a) tried
b) tries
c) was trying
d) is trying
55. He saw me by chance and $\qquad$ the car.
a) stop
b) stopped
c) stops
d) was stopping

## Read the passage carefully then answer the following questions

Harry who is a professional had a fearful dream. He found himself in a land where he saw some slug-like animals with tentacles living on human bodies. The people tolerated these creatures because after many years they would grow into bulls which then be used for transportation. Harry noticed that he himself was covered with these creatures and he woke up screaming.

## 56. In the dream, Harry found the creatures

a) in his office
b) in a different land
c) in his kitchen
d) in a different planet

## 57. what did the creatures look like?

a) slug-like animals with horns
b) insects with wings
c) insects with tentacles
d) slug-like animals with tentacles

## 58. Harry's dream was fearful because

a) It brought him face to face with elephants
b) He found himself on a land full of snakes
c) He forgets the way home
d) He saw creatures feeding on human bodies
59. The creatures will grow into bulls which then will be used for
a) digging
b) hunting
c) transportation
d) flying

## 60. Harry woke up

a) dancing
b) screaming
c) thinking
d) singing
61. $\qquad$ Indus River is the longest river in India.
a) The
b) An
c) A
d) None of the above
62. Peter went to $\qquad$ United States to spend holidays.
a) the
b) a
c) either A or B
d) no article
63. The car travelled 150 kilometres $\qquad$ hour.
a) the
b) an
c) a
d) no article
64. I saw a $\qquad$ of cows in the field.
a) group
b) herd
c) swarm
d) flock

65．The Earth moves round the Sun．
a）simple past
b）past perfect
c）simple present
d）past future perfect

66．Rain falls from the cloud．
a）past continuous
b）future continuous
c）simple present
d）present continuous

67．The train had left．
a）past perfect
b）past continuous
c）past future
d）simple present

68．It will rain soon．
a）simple past
b）simple present
c）past future
d）simple future

69．Suganya is typing．
a）simple past
b）simple present
c）present continuous
d）past perfect

70．I shall visit the book fair tomorrow．
a）simple past
b）simple present
c）simple future
d）future continuous

71．It is very hot today？
a）isn＇t it？
b）wasn＇t？
c）was it？
d）is it？

72．Suganya will not come today？
a）shall she？
b）will she？
c）won＇t she？
d）none of these

73．Indian team has beaten the Australian team．
a）does it？
b）hasn＇t it？
c）has it？
d）is it？

74．None of the food was wasted．
a）wasn＇t it？
b）isn＇t it？
c）was it？
d）is it？

75．Let us play．
a）can we？
b）do we？
c）shall we？
d）shalln？t we？

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## VIVEKANANDA COLLEGE, TIRUVEDAKAM WEST

College with Potential for Excellence
Residential \& Autonomous - A Gurukula Institute of Life-Training Re-accredited ( ${ }^{\text {rd }}$ Cycle) with 'A' Grade (CGPA 3.59 out of 4.00 ) by NAAC
[Affiliated to Madurai Kamaraj University]
B.Sc. Comp.Science Degree (Semester) Examinations, November 2022 Part - IV: Skill Enhancement Course: Third Semester: Paper - I

## SECTION - A

## Answer ALL Questions

$(10 \times 1=10)$

1. What is an operating system?
a) interface between the hardware and application programs
b) collection of programs that manages hardware resources
c) system service provider to the application programs
d) all of the mentioned
2. Which of the following is not an operating system?
a) Windows
b) Linux
c) Oracle
d) DOS
3. CPU fetches the instruction from memory according to the value of
$\qquad$
a) program counter
b) status register
c) instruction register
d) program status word
4. The page table contains $\qquad$
a) base address of each page in physical memory
b) page offset
c) page size
d) none of the mentioned

5．In operating system，each process has its own $\qquad$
a）address space and global variables
b）open files
c）pending alarms，signals and signal handlers
d）all of the mentioned
6．What is the ready state of a process？
a）when process is scheduled to run after some execution
b）when process is unable to run until some tasks has been completed
c）when process is using the CPU
d）none of the mentioned
7．What is a reusable resource？
a）that can be used by one process at a time and is not depleted by that use
b）that can be used by more than one process at a time
c）that can be shared between various threads
d）none of the mentioned
8．Which one of the following is the deadlock avoidance algorithm？
a）banker＇s algorithm
b）round－robin algorithm
c）elevator algorithm
d）karn＇s algorithm

9．What is an operating system？
a）interface between the hardware and application programs
b）collection of programs that manages hardware resources
c）system service provider to the application programs
d）all of the mentioned
10．CPU scheduling is the basis of $\qquad$
a）multiprogramming operating systems
b）larger memory sized systems
c）multiprocessor systems
d）none of the mentioned

## SECTION－B

## Answer any FIVE Questions

$(5 \times 2=10)$
11．What is meant by an operating system？
12．Define memory
13．List out any 4 operating system
14．Give any two advantages of single contiguous memory allocations
15．Expand：
a）FIFO
b） CPU

16．What is the function of job scheduler？
17．Define deadlock

## SECTION－C

## Answer ALL Questions

18．a）State the resource manager function
［OR］
b）Explain memory management and its functions
19．a）Explain about single contiguous memory allocation
［OR］
b）write about static partition specification
20．a）summarize the life cycle of process with neat diagram
［OR］
b）Explain about job scheduling using shortest job first

## SECTION－D

## Answer any TWO Ouestions

21．Explain about processor management and device management functions．
22．Write about relocatable portioned memory management
23．Discuss on job scheduling and its functions
24．Write short notes on deadlock and its avoidance
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B.A., B.Sc., B.Com. \& B.Com.(CA) Degree (Semester) Examinations, November 2022 ANIMATION AND COMPUTER GRAPHICS

SECTION - A

## Answer ALL Questions

$(10 \times 1=10)$

1. List the types of symbols available in Macromedia Flash?
2. Give the default size of the stage in Flash?
3. Give the use of Transform tool?
4. List the type of animation supported by Flash?
5. Give the tool used to pick color from the palette?
6. Give the command to reverse previous command used in flash?
7. Which option is used in the menu bar to hide and unhide panel windows?
8. Expand "fps"?
9. How to save an object in the library panel for future use?
10. Which tool is used to scale, rotate and skew objects in the stage window in flash?

## SECTION - B

## Answer ALL Questions

$(4 \times 5=20)$
11.a) Discuss on the ways to make an animation look smoother in flash?
[OR]
b) Classify the types of panels in flash?
12.a) Give the uses of key frames and blank frames?
[OR]
b) Write a note on the options available in command menu?
13.a) Write down the uses Free Transform tool and Lasoo tool?
[OR]
b) Give the difference between Eye dropper tool and Pen tool?
14.a) Describe the steps involved in creating a Text animation using flash?
[OR]
b) Write a note on steps involved in drawing an object in flash?

## SECTION - C

## Answer any TWO Questions

15. Describe in detail the characteristics of flash workspace with neat diagram?
16. Enumerate on any five tools in flash and give their functions?
17. Explain in detail with a neat diagram the steps involved in implementing types of tweening in flash?


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DTP (DESKTOP PUBLISHING)
Time: 2 Hours
CERTIFICATE COURSES
Max. Marks:

## SECTION - A

## Answer ALL Questions

1. The meaning of DTP is
2. What is the shortcut key for Duplicate layer a file?
3. Adobe Photoshop is a $\qquad$ Application software.
4. The full form of EPS is
5. JPEG Stands for
6. CMYK Stands for
7. PDF Stands for
8. CCW Stands for
9. What is the shortcut key for new layer a file?
10. Graphics is divided in to $\qquad$ parts.

## SECTION - B

## Answer ALL Questions

11.a) How to create a document in Photoshop?
[OR]
b) Difference between Word Processing and DTP
12.a) Discuss about red eye removal in Photoshop
[OR]
b) How to making color adjustment in Photoshop.
13.a) Explain about Background Eraser Tool
[OR]
b) Explain about Use of colors.
14.a) Write explain about Type Masking
[OR]
b) Discuss about the Use of DTP

## SECTION - C

## Answer any TWO Questions

$(2 \times 10=20)$
15. Briefly explain about Toolbox and List out one by one?
16. How to create visiting card with example.
17. Give a brief explains about the File Format in Photoshop?


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B．A．，B．Sc．，B．Com．\＆B．Com．（CA）Degree（Semester）Examinations，November 2022 HTML AND INTERNET PROGRAMMING

SECTION－A

## Answer ALL Questions

$(10 \times 1=10)$
1．Define Internet．
2．Expand WWW．
3．List out the any four leading Browner＇s．
4．Write any two applications of HTML．
5．List out the types of Lists
6．Find the odd one from the following：Bold，italic，underline，print
7．Write any 5 tags in HTML
8．Expand＂CSS＂？
9．How to save the HTML file？
10．Write any two－table tag．

## SECTION－B

## Answer ALL Questions

11．a）Explain about Browser and server．
［OR］
b）Write about the Structure of HTML and explain it．
12．a）Explain about Ordered List with Example．
［OR］
b）Explain about Marquee and Break Tag
13．a）How to create the Table in HTML and explain with example．
［OR］
b）Explain about the LINK tag in HTML
14．a）Write about i）DNS ii）URL
［OR］
b）Discuss about the BOLD，ITALIC and UNDERLINE．

## SECTION－C

## Answer any TWO Questions

15．Describe in detail the any 10 Formatting Tag in HTML．
16．Enumerate on UNORDERED LIST in HTML．
17．Explain in detail about how to create a FORM in HTML．

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B.A., B.Sc., B.Com. \& B.Com.(CA) Degree (Semester) Examinations, November 2022 PROGRAMMING IN C
Time: 2 Hours
SECTION - A

## Answer ALL Questions

$(10 \times 1=10)$

1. Who is founder of C language?
2. List out any 4 C tokens
3. What is meant by Enum?
4. How to declare a variable in C ?
5. Give any two-backslash character in C
6. How to assign value to a variable?
7. Define operator
8. If $\mathrm{a}=5$, what is the answer of this expression $\mathrm{a}+=5$ ?
9. If a[5], how many items are received from the user?
10. List out looping statements in C

## $\underline{\text { SECTION - B }}$

## Answer ALL Questions

11.a) Write short notes on basic structure of C program

## [OR]

b) Explain about basic data types in C
12.a) Explain about scant function
[OR]
b) Explain about printf function
13. a) Write a C program to check given number is odd or even
[OR]
b) Explain about simple if else statement with example
14.a) Explain about for loop with example
[OR]
b) Explain about do while loop with example

## SECTION - C

## Answer any TWO Questions

$(2 \times 10=20)$
15. write short notes on C tokens
16. Discuss about operators in C
17. Explain about one dimensional array with example


